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DOI: <https://doi.org/10.1007/s11482-018-9689-x>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-164864>

Journal Article

Accepted Version

Originally published at:

Baumann, Doris; Ruch, Willibald; Margelisch, Katja; Gander, Fabian; Wagner, Lisa (2020). Character Strengths and Life Satisfaction in Later Life: an Analysis of Different Living Conditions. *Applied Research in Quality of Life*, 15(2):329-347.

DOI: <https://doi.org/10.1007/s11482-018-9689-x>

Character Strengths and Life Satisfaction in Later Life: An Analysis of Different Living Conditions

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This study has been supported by a research grant from the Swiss National Science Foundation (SNSF; grant 100014_172723 awarded to WR).

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Abstract

The aim of this study was to explore the role of character strengths and their associations to life satisfaction in older people. We were interested in studying several transitions that are specific for older people: aging, retirement, living alone, and being widowed. We examined the relationships of these demographic characteristics and living conditions with character strengths and studied their effects on the association of character strengths with life satisfaction. In a cross-sectional analysis, 15,598 older adults (aged 46-93 years) who had completed measures on character strengths, life satisfaction, and demographic characteristics and living conditions were selected from an existing database. Overall, analyses revealed positive associations of most character strengths with age, and higher scores in most character strengths for the employed (vs. the retired) and those living with a partner (vs. those living alone), while only few relationships with being widowed (vs. being married) were observed. Further, the contribution of character strengths to life satisfaction generally decreased slightly with age, but increased for certain character strengths, such as modesty or prudence. Also, stronger relationships between several character strengths and life satisfaction were found for retired people and those living alone, while being widowed did not affect these relationships. The results demonstrate how character strengths might contribute to the life satisfaction of older adults in various living conditions and thereby offer a starting point for strengths-based programs in later life.

Keywords: Character strengths, life satisfaction, life course, positive psychology, middle and late adulthood, positive aging

Character Strengths and Life Satisfaction in Later Life: An Analysis of Different Living Conditions

Over the last five decades, there has been an impressive increase in life expectancy in OECD countries resulting in an average life expectancy of 80 years (Organisation for Economic Co-operation and Development; OECD, 2017). An older person leaving labor force could therefore expect around 20 years of retirement (World Health Organization; WHO, 2011). Obviously, this demographic development holds both opportunities and challenges for the individual as well as for society as a whole (Walker, 2002). For the individual, the question arises what to do with the two to three decades of lifetime after leaving the work force. This additional lifetime after retirement might offer an unparalleled opportunity for self-realization and engagement in personally significant endeavors. Being no longer bound by expectations and obligations, older individuals might have a greater possibility than ever before to pursue activities and interests they deeply care about and create a life that feels meaningful and most authentic to themselves. Identifying own strengths, personal values, and areas of interest can help finding meaningful life pursuits and creating a fulfilling life after retirement (Pepin & Deutscher, 2011).

Old age is often considered a period characterized by cognitive and physical decline as well as the loss of family members and friends (Cohen & Koenig, 2003). However, contrary to popular assumptions, older persons report in general high levels of life satisfaction and emotional well-being (Charles & Carstensen, 2010) and remain independent into very old age (WHO, 2002). Motivating and enabling older adults to remain healthy and active and sustain social relationships are part of the active aging concept of the World Health Organization (WHO, 2002). Older persons are therefore encouraged to continue to realize their potential and actively participate in various domains of society according to their capacities and preferences. In this regard, important aspects that support a positive aging process can be drawn from Erikson's (1959/1980) psychosocial theory of personality development, in which the key roles of generativity and meaning for the optimal

development and well-being of older adults are emphasized. Following this, a positive aging approach therefore focuses on factors that improve the quality of life in later years and enable older adults to be at their best in old age (Vaillant, 2004).

Enabling a positive aging experience is one of the many concerns of Positive Psychology, which aims at enhancing positive development and optimal functioning at all life stages. It emerged mainly as a reaction to the predominant disease model as an empirical approach to human flourishing and focuses also on identifying and fostering positive characteristics of organizations and communities (Seligman & Csikszentmihalyi, 2000). Academic discussion on what makes life worth living and good character has a long tradition and similar themes have been addressed by earlier psychologists, such as Maslow's (1968) theory of self-actualization, Rogers' (1961) concept of the fully functioning person, or Jahoda's (1958) concept of positive mental health. Accordingly, the World Health Organization (2006) defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (p. 1). Keyes (2007) proposes a model of complete mental health that is characterized by flourishing and the absence of mental illness. Evidence exists that completely mentally healthy individuals report the least number of chronic physical conditions at all life stages and the healthiest psychosocial functioning (Keyes, 2005). In a similar vein, Wood and Joseph (2010) suggest that besides the presence of negative well-being also the absence of positive well-being might increase the risk of depression. Indeed, their research findings revealed that older individuals with low psychological well-being were more likely to become depressed a decade later. These research findings highlight the importance of understanding the factors that sustain older adults' well-being and enhance flourishing also in later life.

Character Strengths

The World Health Organization (2004) describes mental health also as a state of well-being in which individuals can realize their potential, cope with life normal stressors, work productively and contribute to society. In the mental health profession, the focus has been on identifying and labeling

human weaknesses while human assets and potentialities were neglected for a long time (Snyder et al., 2003). However, how individuals are labeled makes a difference in their lives, in how they are treated by other persons and for the realization of their potential (Snyder et al., 2003). As a consequence, Peterson and Seligman (2004) have developed the *Values in Action (VIA) Classification of Strengths* with the objective to create a common language that describes humans at their best. This classification evolved from an extensive historical literature review in areas such as philosophy, moral education, psychology or theology. Moreover, the classification serves the purpose of understanding and identifying psychological strengths and encouraging their application. The classification contains 24 character strengths that are assigned to six universal virtues (see Höfer et al. 20189 in this special issue). Character strengths can be defined as morally valued personality traits that exist on a continuum. They are reflected in thoughts, feelings and behavior and are mechanism by which virtues can be expressed. Character strengths are valued across cultures, are personally fulfilling and contribute to the well-being of individuals and the good of societies. Character strengths and concepts within Positive Psychology in general have also been criticized for an individualistic bias and the neglect of environmental factors (e.g., Becker & Marecek, 2008; Christopher & Hickinbottom, 2008). While it is true that well-being does not depend on individual choice and responsibility alone and structural and social factors might undermine and inhibit attempts to thriving, the cultivation of character strengths might nevertheless be a way to increase one's own well-being (e.g., Proyer et al., 2013b). A strengths-based approach might also be a helpful perspective on positive aging as it focuses on older adults' capabilities and potentials and can emphasize the human capital not only of an individual but also of the aging population.

Character Strengths, Life Satisfaction, and Age

In general, character strengths and age tend to have small but significant positive correlations. A study with a large UK sample revealed that the character strengths with the strongest positive associations with age were curiosity, love of learning, fairness, forgiveness, and self-

regulation (Linley et. al., 2007). Similar findings in a German-speaking sample were reported by Ruch et al. (2010a) who also found most strengths to increase with age. The highest positive correlations with age were found for curiosity, forgiveness, modesty, prudence, self-regulation, appreciation of beauty and excellence, and spirituality.

Subjective well-being is a measure to evaluate one's quality of life and entails affective (positive and negative affect) and cognitive (life satisfaction) components (Diener, Suh, Lucas, & Smith, 1999). Research findings regarding the relationship between character strengths and life satisfaction show that all character strengths – with the exception of modesty – positively relate to life satisfaction, with the strongest associations usually found for the five strengths of hope, zest, gratitude, love, and curiosity (e.g., Buschor et al., 2013; Park et al., 2004; Proyer et al., 2011; Ruch et al., 2007, 2010a).

In a previous study, the relationships between strengths and life satisfaction have been examined in different adult samples (Isaacowitz, Vaillant, & Seligman, 2003). The findings revealed that in a sample (aged 60 and above), including community-dwelling adults, hope, teamwork, and love emerged as predictors of life satisfaction. In a second sample of men of the Harvard Study of Adult Development (on average 78 years of age) love and appreciation of beauty predicted life satisfaction. However, this study was conducted before the publication of the VIA classification (Peterson & Seligman, 2004) and only nine of the 24 character strengths were assessed, thus offering an incomplete picture of the relationships of character strengths with the life satisfaction of older adults. Martínez-Martí and Ruch (2014) investigated all 24 character strengths and well-being in different age groups in a representative sample of Swiss adults. Overall, the associations between character strengths and life satisfaction were similar across the age groups, but they also reported some differences that might be related to different developmental tasks or life circumstances. Within the oldest age group in their sample (47-57 years), the character strengths of hope, zest, humor, gratitude, and love of learning showed the highest correlation with life

satisfaction. In the present study, we aim to extend these findings by also including participants over 57 years of age.

Transitions in Later Life and Life Satisfaction

The development of life satisfaction across the life span tends to exhibit a U-shape and increases in average life satisfaction after middle age could be observed in various nations and cohorts (Blanchflower & Oswald, 2008). Life satisfaction is considered a key indicator for aging well (Gana, Bailly, Saada, Joulain, & Alaphilippe, 2013). Several life events that may occur or typically occur during aging might impact the development of life satisfaction. In the present study, we are taking a closer look at differences in demographic variables and living conditions that might have resulted from such life events, that is being retired (vs. being employed), living alone (vs. with a partner), and being widowed (vs. being married).

The number of older adults living alone is increasing in many countries and this trend can even be observed in societies with previously more traditional living arrangements, such as in Japan (WHO, 2011). Aspects of social isolation, such as widowhood or living alone are a predisposition for loneliness in later life (Wenger, Davies, Shahtahmasebi, & Scott, 1996). Research findings consistently indicate that married individuals report higher life satisfaction than those who were never married or are divorced, separated, or widowed (Diener et al., 1999). Furthermore, being married and socially well-integrated is associated with higher levels of meaning and purpose in life (Pinquart, 2002). In general, the quality of social relationships seems to be of greater importance for the life satisfaction in late life than the network size (Charles & Carstensen, 2010). Additionally, evidence exists on the relevance of social interaction and intellectual stimulation in late life for the preservation of cognitive function and protection against dementia (Bennett, Schneider, Arnold, Tang, & Wilson, 2006; Fratiglioni, Paillard-Borg, & Winblad, 2004).

Research findings document that being in a career provides a person with a sense of identity, meaning, and purpose, and permits to achieve one's potential (Hall & Las Heras, 2013). Jahoda's (1981) latent deprivation model includes five positive factors inherent in employment: time

structure, purpose, social interaction, status, and activity. The author posits that those factors satisfy basic human needs and enhance positive mental health. Individuals who are unemployed or out of labor force, such as homeworkers or retirees, would therefore be deprived of those benefits. This assumption has been tested by Paul and Batinic (2010) in a representative German sample aged from 14 to 91 years. Their results show indeed that employees reported higher levels of social contact, activity, purpose, and presence of time structure compared to unemployed individuals and those who were out of the labor force. Regarding status and identity, no difference was found between employed persons and individuals without labor force participation. All five factors were significantly associated with mental health as predicted by Jahoda.

Main challenges regarding the transition to retirement consist in adjusting to the loss of work role and social relationships at work and in developing a meaningful and satisfactory postretirement life (van Solinge & Henkens, 2008). Different theories exist on how retirement affects individuals' quality of life and empirical evidence on the relationship between work status and well-being seems to be inconsistent (Forbes, Spence, Wuthrich, & Rapee, 2015; Kim & Moen, 2002). A transition into retirement might be characterized by loss of important work role, structure, and career identification, but also involves release of pressure, opportunities to pursue own interests and activities and can therefore be accompanied by psychological distress or enhanced subjective well-being.

The present study

Since a substantial proportion of the population will consist of older adults understanding the factors that contribute to their well-being and optimal functioning might be of interest not only for researchers, but also for practitioners and policy makers. Moreover, character strengths and their relationship to well-being in later life are mainly unexplored so far. The present study therefore aims at exploring the relationship between character strengths and life satisfaction in older adults with different demographic characteristics and in various living conditions that are especially relevant for older adults, such as age, retirement, living arrangement or marital status. For this

purpose we first analyzed the relationships between character strengths and those demographic characteristics and living conditions and second, we investigated whether the relationships of character strengths with life satisfaction depends on those demographic characteristics and living conditions. For our first main aim, we assumed that most strengths would be positively correlated with age also in this sample of middle-aged to old adults, as has been reported previously for different age ranges (e.g., Ruch et al., 2007, 2010a). Accordingly, we expected the highest relationships with life satisfaction for strengths such as curiosity, love of learning, and the strengths of restraint (i.e., forgiveness, modesty, prudence, and self-regulation). For retirement, we expected a mixed pattern: Lower scores in those strengths that are especially related to working (i.e., persistence, teamwork, and leadership), but higher scores in modesty, prudence, and self-regulation since retirees are required to create and maintain a daily routine on their own. For living arrangement (comparing those living with a partner with those who are living alone) and marital status (comparing people in a partnership with those who are widowed) we expected higher scores in those strengths related to relationships: Love, kindness, social intelligence, and teamwork. For our second main aim, we did not formulate specific hypotheses due to the scarcity of research in this area so far.

Method

Participants

From a large database, data from participants aged 46 and above were selected. The sample consisted of $N = 15,598$ adult participants aged 46 to 93 ($M = 53.36$; $SD = 6.26$; 68% women). Of the sample 62.3% were married or cohabiting, 22.6% were divorced or separated, 12.0% were single and never married, and 3.1% were widowed. Most participants were living with their spouse (63.9%), and approximately one third of the sample (30.2%) was living alone. Half of the sample (54.2%) attained a university degree as their highest level of education, 9.2% of the sample held a degree allowing them to attend a university, 11.0% had a vocational education and professional training, 25.1% had a compulsory school education, and 0.4% had less than a compulsory

education. With regard to the employment status, 83.0% were currently employed, 10.7% indicated that they were retired, and 5.1% were currently unemployed, the remaining 1.2% indicated another employment status (e.g., in education) or did not provide this information. The majority (58.8%) of the participants indicated having a German nationality, 30.6% a Swiss nationality, 8.4% an Austrian nationality, 1.8% a different nationality, and 0.4% did not provide information on their nationality.

Instruments

The *Values in Action Inventory of Strengths* (VIA-IS; Peterson, Park, & Seligman, 2005; German adaptation by Ruch et al., 2010a) is an internationally widely used questionnaire to assess the 24 character strengths of the VIA classification. Each character strength is measured by 10 items that are rated on a 5-point Likert scale ranging from 1 (*very much unlike me*) to 5 (*very much like me*). A good convergence has been found between self- and peer-rated VIA-strengths (Buschor et al., 2013; Ruch et al., 2010a). Internal consistencies in the present sample were satisfactory (all Cronbach's alphas $\geq .70$).

The *Satisfaction With Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; in the German adaptation used by Ruch et al., 2010a) is a general evaluation of the satisfaction with one's life and measures the cognitive dimension of subjective well-being (SWB). It comprises 5 items that are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scale includes items such as "I am satisfied with my life," and "If I could live my life over, I would change almost nothing". A higher score is indicative of a high level of life satisfaction. Cronbach's alpha in the present study was high, $\alpha = .87$.

Procedure

Participants were from a convenience sample that completed the questionnaires on a website affiliated with an institution of higher education (<https://www.charakterstaerken.org>). This website allows participants to complete various instruments assessing constructs studied in Positive Psychology. Participants receive an automated, individual feedback on their results. These services are offered free of charge. After the registration process, respondents provide demographic

information before receiving access to the instruments. Participants were not explicitly recruited for the purpose of this study, but we analyzed data from all participants that were aged 46 and above and completed the VIA-IS and the SWLS.

Results

Preliminary analyses

Retirement status, living condition, and marital status were recoded into dichotomous variables indicating only the two conditions that we aimed to compare: being retired vs. working, living alone vs. living with a partner, and being widowed vs. being married (includes also cohabiting with a partner). Participants who indicated an answer outside of these two alternatives (i.e., being a homemaker, living with family, or being divorced) were not included in the analyses regarding the respective variable. As a preliminary analysis, we analyzed the associations among the demographic and living condition variables in this study (i.e., gender, age, retirement status, living arrangement, and marital status). Results showed that, as expected, most variables showed small correlations (all $r < .20$) with the exception of age and retirement status ($r = .56, p < .001$) and living condition and marital status ($r = .78, p < .001$) (see online supplementary Table A1)¹.

Descriptive statistics on character strengths and life satisfaction as well as correlations between character strengths and gender are provided in online supplementary Table A2. The correlations found were small and highly similar to those reported in a recent meta-analysis (Heintz, Kramm, & Ruch, 2017). When controlling for gender, the correlation between life satisfaction and age was small and positive ($r [15,595] = .08, p < .001$). Also, there was a quadratic effect suggesting an increasing slope with age ($F[1, 15,594] = 5.22, p = .02, R^2 < .001$) that was not further considered due to its small magnitude. When controlling for age and gender, life satisfaction was slightly higher for those participants who were employed (vs. retired; $r [14,294] = -.06, p < .001$),

¹For several correlations with dichotomous variables (“point-biserial correlations”; such as with retirement status, gender, etc.) equal variances could not be assumed due to the large sample size. Thus, the reported relationships might yield a (minor) underestimation of the true relationships. Correcting for the inequality of variances would not have affected the significance of the results.

living with a partner (vs. living alone; $r [14,670] = .19, p < .001$), and those married (vs. widowed; $r [10,193] = .05, p < .001$).

Relationships of Strengths With Age, Retirement Status, Living Arrangement, and Marital Status

In a first step, we examined the relationships between character strengths and the demographic and living condition variables of interest, while controlling for age and gender (Table 1).

Insert Table 1 about here

Table 1 shows that most strengths showed positive small associations with age, with the numerically highest coefficients for strengths such as self-regulation, modesty, gratitude, thus paralleling the relationships with age that have been reported earlier (Ruch et al., 2010a). Being retired (vs. being employed) was associated with lower scores in most strengths, with the exceptions of modesty and prudence that were higher in retired people. Those who lived together with a partner reported higher scores in most strengths in comparison to those who lived alone with highest difference for the strength love. Some strengths did not follow this general pattern: Strengths such as creativity, bravery, and appreciation of beauty and excellence were higher in those who are living alone compared to persons living with a partner. Finally, being married – as opposed to being widowed – went along with higher scores in zest, love, and social intelligence, and lower scores in honesty and kindness.

Differential Relationships of Strengths With Life Satisfaction Depending on Age, Retirement Status, Living Arrangement, and Marital Status

Next, we were interested whether the relationships of character strengths with life satisfaction differ for people with different demographic characteristics and living conditions. For this purpose, we conducted a series of multiple regressions, predicting life satisfaction by each

character strength, each demographic characteristic/living condition variable, and the interaction between the two, while controlling for age and gender. For example, we predicted life satisfaction (dependent variable) by creativity, retirement status, and the interaction between creativity and retirement status (independent variables), with age and gender entered as control variables. A significant interaction effect indicates that the association between creativity and life satisfaction differs between the retired and the non-retired. For the independent variable age, we predicted life satisfaction (dependent variable) by each of the 24 character strengths, age as a continuous variable, and the interaction between the respective strength and age (independent variables), with gender as a control variable. A significant interaction with age means that the association between the respective strength and life satisfaction differs among people of different age.

Additionally, we computed the relationships between the character strengths and life satisfaction for the different subgroups (e.g., the employed and the retired) separately, while controlling for age and gender². This was done in order to inspect the associations between character strengths and life satisfaction in the different subgroups. For age, we also created age groups (i.e., middle adulthood: 45 to 65 years; young olds: 66 to 69 years; and olds: 70 years and above) for facilitating the interpretation of the interaction effects found in the previous step of the analyses. Results for the correlations in the subgroups and the interaction effects are given in Table 2; all coefficients are given as partial correlations.

 Insert Table 2 about here

Table 2 shows that for age, the contribution of several strengths (i.e., bravery, persistency, zest, love, social intelligence, hope, and spirituality) to life satisfaction *decreased*, while it increased

² For comparability reasons, we did not compute partial correlations controlling for age and gender in the different subgroups separately, since this would yield different regression weights for the control variables in every subgroup. Instead, we computed residualized scores (i.e., controlled for age and gender) for both sets of variables (i.e., life satisfaction and character strengths) in the total sample and then analyzed the correlations among the residua in the subgroups.

for modesty and prudence. Although for some strengths (e.g., appreciation of beauty and excellence, humor, or spirituality) the correlation pattern among the age groups did not strictly follow the assumed linear trend, we refrained from analyzing different trajectories over time due to the comparably smaller samples in higher age groups and the preliminary nature of this study. Also, it has to be noted that for several strengths (i.e., curiosity, love of learning, bravery, zest, love, leadership, and hope) variances differed among the age groups, with the largest variances in the middle adulthood group, and the smallest variances in the old. However, the largest differences in variances were between those in middle adulthood and the other two groups, while the biggest drops in associations with life satisfaction appeared between the young old and the old. Thus, the findings cannot be explained due to a variance restriction.

Retirement status played a role too: the relationships of several strengths were stronger in the retired group than in the employed group (differences in correlations between the groups ranged from $\Delta r = .04$ to $\Delta r = .11$). This was true for the strengths of curiosity, kindness, teamwork, modesty, prudence, self-regulation, appreciation of beauty and excellence, and gratitude. For the living arrangement, a differential effect especially for the strengths of the virtues wisdom and knowledge, courage, temperance, and transcendence was observed: Creativity, curiosity, love of learning, perspective, bravery, persistence, zest, forgiveness, self-regulation, appreciation of beauty and excellence, gratitude, hope, humor, and spirituality were more strongly correlated with life satisfaction in those who lived alone than those who lived with a partner (differences in correlations between the groups ranged from $\Delta r = .02$ to $\Delta r = .07$). Finally, no differences in the contributions of strengths to life satisfaction were observed with regard to marital status.

Discussion

The present study investigated the relationships between character strengths and specific demographic characteristics and living conditions that are of particular relevance for older adults: Aging, retirement, living arrangement, and marital status – thus covering several transitions that most people experience, namely growing old, retiring, living alone, and becoming widowed.

Findings showed that not only do the mean scores of character strengths differ with regard to these variables, but also differential relationships of character strengths with life satisfaction can be observed.

Most character strengths were positively related to age, also in those aged between 46 and 93, thus replicating and extending previous findings. Unexpectedly, lower scores in most strengths were reported in the retired persons with the exception of modesty and prudence that showed higher scores in retirees. Living together with a partner (vs. alone) and being in a partnership (vs. widowed) went along with higher scores in most strengths, especially those related to social relationships, such as love or teamwork, thus widely confirming our expectations. Therefore, it might be that those living conditions provide more opportunities to develop and apply such strengths.

With regard to life satisfaction, several strengths may be less important at a higher age, with the exception of modesty and prudence. Thus, overall strengths seem to contribute less to life satisfaction in older than in younger adults. So far it is unclear, whether life satisfaction of older people is stronger determined by other factors (e.g., health, social relationships) or whether there are further positive personality traits that are especially relevant for older people that are not included in the VIA classification.

With retirement, several strengths seem to become more important, including modesty, prudence, and self-regulation but also several interpersonal strengths such as kindness, gratitude, or teamwork. Interestingly, most strengths showed a stronger contribution in those who are living alone with the exception of those strengths related to social and romantic relationships where no differences were found. Thus, overall, especially for retired individuals character strengths that contribute to social participation and integration, sense of purpose and leading an engaged life seem to play a key role for their life satisfaction. For those who are living alone, on the other hand, intrapersonal strengths such as curiosity, love of learning, or appreciation of beauty become more relevant. Curiosity seems to be of particular importance for the life satisfaction of retirees and

individuals living alone. Curiosity is not only one of the five character strengths most strongly associated with life satisfaction (Ruch et al., 2010a), but also related to an engaged life (Buschor et al., 2013) and longevity (Swan & Carmelli, 1996). Cultivating curiosity, continuing to seek novel experience and pursuing opportunities for growth might act as mechanism to perceiving one's life as meaningful and enhancing own well-being (Kashdan & Steger, 2007). Findings of this study also show the relevance of love of learning for the well-being of individuals living alone. This character strength facilitates personal growth (Harzer, 2016), prevents stagnation and might help maintaining cognitive abilities. In a similar vein, research findings from a fieldwork study regarding lifelong learning suggest that learning throughout one's life has effects on various outcomes such as emotional resilience and psychological well-being (Hammond, 2004). These effects seem to be mediated by building psychosocial qualities that include self-esteem, self-efficacy, a sense of purpose and hope, competency, and social integration, all of which tend to be essential for a later life stage as well. These positive effects are most prevalent when interests, strengths and needs of the individual converge. The character strengths of bravery and persistence seem to have a lesser effect on the life satisfaction of older individuals than their younger counterparts. Persistence is an essential factor in achieving important life goals and successful living. However, in later life, when challenges such as personal losses and physical constraints may be more frequent, disengagement from goals that are not attainable any more can be beneficial to psychological well-being (Wrosch, Scheier, Carver, & Schulz, 2003). The ideal adaptive process requires the individual to withdraw effort and commitment from unattainable goals, but also to substitute them with new meaningful goals. It could be that individuals with advanced age already adjusted to this process, which may explain in part the impact of modesty on their life satisfaction. By contrast, bravery and persistence appear to be advantageous for the life satisfaction of older adults living alone. These findings might imply that in their life circumstances persistently pursuing goals that are in congruence with personal interests and values further self-efficacy, a sense of meaning and purpose and well-being (McGregor & Little, 1998). In this study, zest and love were comparatively less relevant to the life

satisfaction of more mature adults, although they are still among those strengths showing the strongest relationships with life satisfaction in older adults – but to a much lesser degree than in younger adults. The interpretation of these findings is not straightforward. A possible explanation might be that older adults have learnt to deal with losses or thwarted ambitions and therefore approach life in a more modest way. Also, kindness appears to be favorable to the life satisfaction of retirees in the current study. This finding is line with Erikson's (1959/1980) psychosocial theory of development emphasizing the importance of generativity in middle adulthood. Generative acts such as volunteering, mentoring or making a difference in the lives of others is related to psychological well-being and optimal functioning (McAdams, 2013) and a strong predictor for perceiving one's life as meaningful (Schnell, 2011). Research findings indicate that particularly older adults with little informal social interaction seem to benefit from engaging in volunteering activities (Musick, Herzog, & House, 1999). Therefore, for retirees it might be fundamental to find meaningful social roles, a place to apply strengths and contribute to society and thereby prevent stagnation and in addition further personal and others' well-being. Interestingly, in a recent study the experience of a calling in retirement was explored (Duffy, Torrey, England, & Tebbe, 2017). The qualitative findings revealed that helping others emerged as the most endorsed activity type for experiencing a calling. Quantitative analysis showed that perceiving a calling was associated with life meaning and life satisfaction and that life meaning and living a calling mediated the relationship between perceiving a calling and life satisfaction. Likewise, a significant interaction effect between teamwork and retirement on life satisfaction was found in the current study. In effect, social and civic participation can further a sense of belonging, foster feelings of worthiness and being useful. Moreover, there was a statistical interaction effect between self-regulation and older adults in retirement and living alone. Longitudinal findings reveal that self-regulation enhances successful resolution of the developmental crisis of generativity versus stagnation and thereby well-being (Busch & Hofer, 2012). The increase in generative concerns through self-regulation is also related with stronger sense of purpose. The character strengths prudence contributes further to the life

satisfaction of individuals with advanced age and to those in retirement. This strength may help in leading a life in which individuals do not rush, but act wisely so that they need not regret things done or said. In the present study, appreciation of beauty and excellence and gratitude are further character strengths that contribute to the life satisfaction of retirees and individuals living alone. Perceiving beauty in everyday life and regularly noting and appreciating positive aspects of one's life can be an effective strategy to enhance own well-being (Wood, Froh, & Geraghty, 2010). The transcendent strengths of humor and spirituality/religiosity resulted in this study to be more beneficial to the life satisfaction of older adults living alone. Research findings indicate that existential factors, such as spirituality and religiosity, function as emotional and psychological resources in old age and contribute significantly to the well-being of older adults (Fry, 2000). In a similar vein, humor may also be considered a resource for dealing with adversities, act as a buffer against life stressor, increase positive emotions and therefore enhance the quality of life in old age (Ruch et al., 2010b). Interestingly, in the current study the character strengths love of learning, modesty, and appreciation of beauty and excellence appeared to be beneficial to the life satisfaction of older adults, although those character strengths were among those that were only moderately related to life satisfaction in other age groups (e.g., Park et al., 2004).

Implications of Present Research

The study findings highlight the importance of character strengths on the well-being of older adults, especially for those who are in retirement and living alone. In contrast to the meaning of retirement, which signifies withdrawal, older adults are advised to devote themselves to a cause, meaningful activity or an interest where they can apply their strengths and contribute to society. In this sense, coaches and counselors might help their older clients identify strengths, values and interest, clarify aspirations and help finding areas to best apply strengths. As character strengths can be cultivated and trained, they could deliberately be applied in fields of interest to enhance the experience of competency, foster self-efficacy and a sense of purpose and maintain cognitive functioning. Specifically, the active use of own strengths is related to meaning in life and is a

predictor for psychological well-being in later life (Baumann & Eiroa-Orosa, 2016; see also Huber et al. 2019; Höge et al. 20189; Meyers, Kooji, Kroon, de Reuver, & van Woerkom, 2019; and Strecker et al. 2019 in this special issue). In accordance with the policy proposals for active aging (WHO, 2002) social participation, lifelong learning, and active participation in formal, informal or volunteer work according to older adults' capacities and preferences should be encouraged and supported. This might also request that older adults are recognized for their contribution and are provided with opportunities for developing new skills, meaningful engagement, or flexible retirement.

Limitations and Future Research

Constraints of the present study consist in the reliance of self-report measures and the use of a cross-sectional design that does not allow causal conclusions. Additionally, the cross-sectional nature of the data makes it impossible to differentiate age from cohort effects. Of course, it would be highly interesting to have longitudinal data on the transitions to old age, retirement, living alone, and widowhood that would allow for conclusions on change in character that might occur with regard to these transitions. The self-selected nature of the sample represents another limitation of the present study. Although it was relatively large, it was limited to older adults with access to the Internet, and participants tended to be well-educated. Further, all differential effects of the associations between character strengths and life satisfaction were small in size by conventional standards. Obviously, the large sample size increases the ability to detect phenomena with small effect sizes. Nonetheless, we think that also studying small effects help for a better understanding of the role of character in aging and age-related transitions.

In addition, a number of variables that might influence the associations of interest were not taken into account and might be considered in future studies to see whether they jointly or independently predict the outcomes. Those variables include measures of physical health, more detailed information on the work status, and data on the participants' financial situation. Health problems tend to increase with age and several studies document the association of older persons'

life satisfaction with objective health indicators (e.g. longevity; Veenhoven, 2008) and self-rated health (e.g. Gwozdz & Sousa-Poza, 2010). Physical health is an important resource and a restriction in health can undermine quality of life. In concrete, physical health function has been found to be a cofounder in the association of age with emotional well-being (Lamers, Westerhof, Bohlmeijer, & Keyes, 2013) and health declines seem to cause decreases in subjective well-being, rather than age (Kunzmann, Little, & Smith, 2000). Studying objective health indicators in relation to character strengths would also provide further important insights for the understanding of character strengths (see Proyer et al., 2013a). Data on work status did not distinguish between working full time or working part time. Future studies could differentiate more regarding work status, as research findings show that especially part time work later in life seems to have the strongest relationship with well-being (Forbes et al., 2015). Additionally, financial hardship can negatively affect individuals' well-being independent of work status (Gill et al., 2006) and their adjustment in the retirement process (Kim & Moen, 2002). Future research might also consider the living conditions in more detail – we only compared those living alone to those living with a partner. Alternative living arrangement (e.g., living with other older people or with other family members) might be of interests when studying these associations in more detail.

While life satisfaction is a particularly relevant indicator of quality of life, it might be interesting to expand the present research to include different aspects of well-being. For instance, the dimensions of Seligman's (2011) well-being theory (positive emotions/pleasure, engagement, positive relationships, meaning, and accomplishment) have shown differential relations with character strengths (Wagner et al., 2019). These relationships might also vary in later life and offer additional insights on the contribution of character strengths to the well-being of older adults.

Conclusion

Overall, the results underline the role of character strengths for life satisfaction across all age groups, supporting the generalizability of previous results obtained with younger participants to older adults. However, there are also differences in strengths scores and their relationships to life

satisfaction among people with different demographic characteristics (e.g., age, being retired, being widowed) and living conditions (e.g., living alone). Although these differences are generally small in size, they might help for enhancing the understanding of character strengths in older age and provide ground for strengths-based intervention programs aimed at specific subgroups.

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Table 1

Partial Correlations of Character Strengths with Age, Retirement Status, Living Arrangement, and Marital Status, Controlled for Age and Gender^a.

	Age	Retired	Living together	Non-widowed
Creativity	.02*	-.05***	-.03**	.01
Curiosity	.09***	-.05***	.04***	.02
Open-mindedness	.00	-.01	.01	.00
Love of learning	.07***	-.04***	.01	.00
Perspective	-.01	-.04***	.02*	.00
Bravery	.04***	-.03***	-.02**	-.01
Persistence	.04***	-.03**	.06***	.02
Honesty	.00	.00	.00	-.02*
Zest	.06***	-.05***	.06***	.02*
Love	.02*	-.05***	.21***	.05***
Kindness	.08***	.01	-.01	-.03**
Social intelligence	-.01	-.03***	.04***	.02*
Teamwork	-.01	-.03**	.11***	.02
Fairness	.02*	-.02*	.04***	.01
Leadership	.02*	-.05***	.07***	.01
Forgiveness	.05***	-.04***	.03**	.00
Modesty	.09***	.04***	.05***	-.02
Prudence	.06***	.03**	.06***	.01
Self-regulation	.10***	.01	.06***	.02
Beauty	.09***	.00	-.03**	.00
Gratitude	.10***	-.02*	.02*	-.01
Hope	.05***	-.06***	.07***	.00

Humor	.00	-.02**	-.01	.01
Spirituality	.05***	-.04***	.01	-.02

Notes. $N_{age} = 15,598$; $N_{retired} = 14,292$; $N_{cohabiting} = 14,668$; $N_{nonwidowed} = 10,191$. Gender: 0 = male, 1 = female; Retired: 0 = employed, 1 = retired. Living together: 0 = living alone, 1 = living with a partner. Non-widowed: 0 = widowed, 1 = married. Beauty = Appreciation of Beauty and Excellence.

^a = All correlations are partial correlations. Correlations with age are controlled for gender, the remaining correlations controlled for age and gender.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2

Partial Correlations of Character Strengths With Life Satisfaction With Regard to Age, Retirement Status, Living Arrangement, and Marital Status, Controlled for Age and Gender^a.

	Age				Retirement Status			Living Arrangement			Marital Status		
	middle adulthood	young old	old	inter-action	employed	retired	inter-action	living alone	living together	inter-action	widowed	non-widowed	inter-action
	(n = 14,802)	(n = 440)	(n = 356)	(n = 15,598)	(n = 12,894)	(n = 1,404)	(n = 14,298)	(n = 4,708)	(n = 9,966)	(n = 14,674)	(n = 476)	(n = 9,721)	(n = 10,197)
Creativity	.16***	.16**	.12*	.00	.17***	.20***	.01	.19***	.16***	-.02*	.22***	.16***	-.02
Curiosity	.35***	.32***	.16**	.00	.34***	.40***	.03**	.39***	.32***	-.04***	.36***	.33***	-.02
Open-mindedness	.15***	.11*	.07	.00	.15***	.17***	.01	.16***	.14***	-.01	.13**	.15***	.00
Love of learning	.18***	.14**	.06	-.01	.17***	.21***	.01	.22***	.15***	-.04***	.19***	.15***	-.01
Perspective	.27***	.26***	.18***	.00	.27***	.28***	.01	.29***	.26***	-.02*	.30***	.26***	-.01
Bravery	.29***	.23***	.16**	-.02**	.30***	.29***	.00	.33***	.28***	-.03***	.33***	.29***	-.01
Persistence	.32***	.27***	.15**	-.03**	.31***	.33***	.01	.33***	.30***	-.02**	.34***	.30***	-.01
Honesty	.18***	.15**	.15**	-.02	.19***	.18***	.00	.17***	.19***	.01	.17***	.20***	.00
Zest	.45***	.38***	.20***	-.03***	.44***	.44***	.01	.46***	.42***	-.03**	.47***	.42***	-.01
Love	.40***	.37***	.28***	-.03**	.39***	.41***	.01	.38***	.37***	.01	.33***	.37***	.01
Kindness	.16***	.21***	.12*	.00	.16***	.23***	.03**	.16***	.18***	.00	.21***	.18***	-.01
Social intelligence	.27***	.23***	.17**	-.02*	.27***	.29***	.00	.27***	.26***	-.01	.27***	.26***	-.00
Teamwork	.22***	.29***	.26***	.01	.21***	.32***	.03***	.20***	.22***	.00	.18***	.21***	.00
Fairness	.15***	.12**	.19***	.01	.15***	.20***	.02	.14***	.15***	-.00	.20***	.15***	-.01
Leadership	.25***	.23***	.24***	-.00	.25***	.29***	.01	.25***	.25***	-.01	.28***	.24***	-.01
Forgiveness	.24***	.25***	.29***	.01	.24***	.28***	.02	.26***	.23***	-.02**	.22***	.23***	-.00
Modesty	.02**	.09	.22***	.04***	.02*	.12***	.04***	.03	.02	-.01	-.02	.02***	.01
Prudence	.13***	.16**	.20***	.02*	.13***	.19***	.03**	.13***	.12***	-.01	.13**	.13***	-.00
Self-regulation	.25***	.24***	.19***	.00	.24***	.28***	.02*	.27***	.23***	-.03**	.30***	.23***	-.02

Table 2 (continued)

	Age				Retirement Status			Living Arrangement			Marital Status		
	middle adulthood (<i>n</i> = 14,802)	young old (<i>n</i> = 440)	old (<i>n</i> = 356)	inter-action (<i>n</i> = 15,598)	employed (<i>n</i> = 12,894)	retired (<i>n</i> = 1,404)	inter-action (<i>n</i> = 14,298)	living alone (<i>n</i> = 4,708)	living together (<i>n</i> = 9,966)	inter-action (<i>n</i> = 14,674)	widowed (<i>n</i> = 476)	non-widowed (<i>n</i> = 9,721)	inter-action (<i>n</i> = 10,197)
Beauty	.10***	.16**	.08	-.01	.10***	.15***	.02*	.13***	.09***	-.03***	.13**	.09***	-.01
Gratitude	.34***	.30***	.30***	-.01	.33***	.38***	.02*	.35***	.33***	-.02**	.34***	.33***	-.01
Hope	.51***	.48***	.30***	-.03**	.51***	.52***	.01	.53***	.50***	-.03**	.53***	.49***	-.02
Humor	.27***	.34***	.18**	-.01	.27***	.30***	.01	.30***	.26***	-.03**	.23***	.26***	.01
Spirituality	.19***	.13	.20***	-.02*	.19***	.21***	.01	.22***	.18***	-.03***	.19***	.18***	-.01

Notes. Gender: 0 = male, 1 = female; Retirement status: 0 = employed, 1 = retired. Living Condition: 0 = living alone, 1 = living with a partner. Marital Status: 0 = widowed, 1 = married. Interaction terms refer to the interaction between the specific strengths and the demographic variable of interest in the prediction of life satisfaction. Beauty = Appreciation of Beauty and Excellence.

^a = All correlations are partial correlations. Correlations with age are controlled for gender, the remaining correlations controlled for age and gender. For the subgroups, we computed residualized scores (i.e., controlled for age and gender) for both sets of variables (i.e., life satisfaction and character strengths) in the total sample and then analyzed the correlations among the residua in the subgroups.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Online Supplementary

Table A1

Zero-Order Correlations Among Demographic Variables and Living Conditions

	Age	Gender	Retirement Status	Living Arrangement
Gender	-.13***			
Retirement Status	.56***	-.07***		
Living Arrangement	-.03**	-.13***	-.03***	
Marital Status	-.16***	-.10***	-.14***	.78***

Notes. Retirement status: 0 = employed, 1 = retired. Living Condition: 0 = living alone, 1 = living with a partner. Marital Status: 0 = widowed, 1 = married.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table A2

Descriptive Statistics of Character Strengths and Life Satisfaction and Correlations With Gender

	<i>M</i>	<i>SD</i>	Correlations with gender
Character Strengths			
Creativity	3.61	0.65	-.08***
Curiosity	4.05	0.52	-.02*
Open-mindedness	3.89	0.47	-.07***
Love of learning	3.94	0.56	.06***
Perspective	3.54	0.48	-.08***
Bravery	3.61	0.53	.01
Persistence	3.50	0.61	-.04***
Honesty	3.83	0.43	.00
Zest	3.60	0.57	-.02**
Love	3.84	0.54	.08***
Kindness	3.85	0.47	.08***
Social intelligence	3.72	0.46	.12***
Teamwork	3.62	0.49	-.02**
Fairness	3.94	0.45	.01
Leadership	3.68	0.50	-.05***
Forgiveness	3.59	0.53	-.04***
Modesty	3.27	0.55	-.04***
Prudence	3.40	0.53	-.04***
Self-regulation	3.29	0.56	-.08***
Beauty	3.65	0.54	.14***
Gratitude	3.80	0.54	.13***
Hope	3.57	0.60	-.01

Humor	3.58	0.62	-.06***
Spirituality	3.13	0.90	.09***
Life Satisfaction	4.78	1.21	.04***

Notes. $N = 15,598$. Gender: 0 = male, 1 = female. Beauty = Appreciation of Beauty and Excellence.
* $p < .05$, ** $p < .01$, *** $p < .001$.